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File: PGPB

Jul 25, 2002

DOCUMENT-IDENTIFIER: US 20020099756 A1

TITLE: Task concurrency management design method

Detail Description Paragraph:

[0132] Due to the aggressive application of task-level concurrency extraction and concurrency improving transformations, the additional concurrency and reduced complexity can be exploited to move the location of the Pareto curve left and down for the processor core contribution (see FIG. 7.10). This indeed allows to better exploit the low Vdd processor during the task-level assignment and scheduling. Consequently the (energy) cost goes down. The DTS cost can be improved also because DTSE related code transformations allow to remove redundant accesses, and to improve the regularity, locality and data reuse behaviour. In addition, the concurrency improving transformations provide more access ordering freedom to remove part of the internal overhead (size especially) for the dynamically sized buffers. The transformations can however also be used to speed up the implementation, i.e. to break up the critical path and hence enable tighter time budgets to be achieved (at a potentially higher cost of course). As a result, the global Pareto curve after the transformations represents significantly improved solutions in the search space, both in terms of the cost required for a given time budget and in terms of the minimal time budget that can be reached.

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